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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Mireille Seux

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EXAMINER

KESSLER, CHRISTOPHER S

ART UNIT

PAPER NUMBER

1793

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03/05/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,107	Applicant(s) SEUX ET AL.	
	Examiner CHRISTOPHER KESSLER	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 8-10 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Responsive to the amendment filed 26 November 2008, claims 3-10 are amended and claims 11 and 12 are added. Claims 1-12 are currently under examination.

Status of Previous Rejections

2. Responsive to the amendment filed 26 November 2008, the rejections based on Kunishige in view of Tamehiro are withdrawn. New grounds of rejection are presented.

Specification

3. The disclosure is objected to because of the following informalities: in the Example, the composition is listed as comprising 0.78% carbon, which is outside the range disclosed in the Abstract, Description of the Preferred Embodiments, Claims, etc. It is believed by the Examiner that this is merely a typographical error.

Appropriate correction is required.

Claim Objections

4. Claims 8-10 and 12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 8 requires

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that the manganese content is 0.7-1.1%. However, independent claim 2 (on which claim 8 depends) limits the manganese content to 0.8-1.0%. The range of manganese in claim 8 is outside the scope of claim 2. Each of claims 9, 10 and 12 is dependent on claim 8 and is therefore also improper.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Document JP 11-199984 A (hereinafter "Yamaguchi"; machine

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translation attached) in view of US Patent 6,264,760 issued to Tamehiro et al. (hereinafter "Tamehiro").

Regarding claim 1, Yamaguchi teaches a steel sheet that has excellent cutting characteristics (see Abstract, [0004]-[0007]). Yamaguchi teaches that the steel comprises C: 0.02-0.3, Mn: 0.50-3.00, Cr: 0-1%, Si: 0.01-3.00, Ti: 0-0.25, Al: 0.01-0.07, P: 0-0.15 (see [0010]-[0014]). The composition taught by Yamaguchi significantly overlaps the instantly claimed compositional ranges, establishing a prima facie case of obviousness for those ranges. It would have been obvious to one of ordinary skill in the art at time of invention to have made a steel with a composition within the range as claimed, because Yamaguchi teaches a steel with a composition overlapping the instantly claimed range. Applicant is further directed to MPEP 2144.05.

Yamaguchi does not teach wherein the steel has a bainitic-martensitic structure with up to 5% ferrite.

Tamehiro teaches an ultra-high strength steel with a structure comprising predominantly fine grain bainite and martensite (see abstract). Tamehiro teaches that the bainite and martensite comprise at least about 90% of the structure of the steel (see col. 19). Tamehiro teaches that the steel is prepared by a process comprising hot rolling in the temperature range of 950-700° C and cooling at a high rate to a temperature between 450-200° C (see cols. 21-22). Tamehiro teaches that this method imparts ultra-low temperature toughness into the steel along with high tensile strength (see cols. 19-21).

It would have been obvious to one of ordinary skill in the art to have applied the method of Tamehiro to the alloy of Yamaguchi because Tamehiro teaches that the method imparts ultra-low temperature toughness into the steel along with high tensile strength (see cols. 19-21).

Regarding the limitation of the amount of ferrite present, Tamehiro teaches that the bainite and martensite comprise at least about 90% of the structure of the steel and the rest is one or more of ferrite, twinned martensite, or upper bainite (see col. 19), said composition overlapping the claimed range, establishing a prima facie case of obviousness for that range. Further, the similar process applied to the similar composition as claimed must inherently yield the same results. Applicant is further directed to MPEP 2112.01.

Regarding claim 2, Yamaguchi in view of Tamehiro is applied to the claim as stated above. The composition taught by Yamaguchi significantly overlaps the instantly claimed compositional ranges, establishing a prima facie case of obviousness for those ranges. It would have been obvious to one of ordinary skill in the art at time of invention to have made a steel with a composition within the range as claimed, because Yamaguchi teaches a steel with a composition overlapping the instantly claimed range. Applicant is further directed to MPEP 2144.05.

Regarding claim 3, Tamehiro teaches wherein the steel preferably contains at least 90% bainite-martensite, with preferably at least $\frac{3}{4}$ of bainite, said range overlapping the instantly claimed range and establishing a prima facie case of

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obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have produced a steel with an amount of bainite and martensite as claimed because Tamehiro teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Regarding claim 4, Yamaguchi in view of Tamehiro does not teach wherein the steel has the properties as claimed. However, the similar composition of steel processed in a similar manner as claimed would have the same properties.

Regarding claim 5, Yamaguchi in view of Tamehiro does not teach wherein the steel has the properties as claimed. However, the similar composition of steel processed in a similar manner as claimed would have the same properties.

Regarding claim 6, Yamaguchi in view of Tamehiro does not teach wherein the steel has the properties as claimed. However, the similar composition of steel processed in a similar manner as claimed would have the same properties.

Regarding claim 7, Yamaguchi in view of Tamehiro does not teach wherein the steel has the properties as claimed. However, the similar composition of steel processed in a similar manner as claimed would have the same properties.

Regarding claim 8, Yamaguchi in view of Tamehiro is applied to the claim as stated above. Tamehiro teaches that the steel is prepared by a process comprising hot rolling in the temperature range of 950-700° C and cooling at a high rate to a temperature between 450-200° C (see cols. 21-22). Tamehiro teaches that this method imparts ultra-low temperature toughness into the steel along with high tensile

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strength (see cols. 19-21). Tamehiro teaches that the strip is air cooled after the quenching (see cols. 21-22). Tamehiro does not teach coiling the strip. However, the step of coiling is well known in the art and would have been obvious to one of ordinary skill in the art in order to conveniently store and transport the steel. The examiner takes Official notice that this step is well known in the art. Applicant is further directed to MPEP 2144.03.

Regarding claim 9, Yamaguchi in view of Tamehiro is applied to the claim as stated above.

Regarding claims 10 and 12, Yamaguchi in view of Tamehiro do not teach that the alloy is uncoiled, annealed, and then hot dipped in zinc to galvanize the steel. However, these steps are well known in the art and would have been obvious to one of ordinary skill in the art in order to create a desired surface on the steel. The examiner takes Official notice that these steps are well known in the art. Applicant is further directed to MPEP 2144.03.

Regarding claim 11, Tamehiro teaches wherein the steel preferably contains at least 90% bainite-martensite, with preferably at least $\frac{3}{4}$ of bainite, said range overlapping the instantly claimed range and establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have produced a steel with an amount of bainite and martensite as claimed because Tamehiro teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Response to Arguments

7. Applicant's arguments, filed 26 November 2008, with respect to Kunishige have been fully considered and are persuasive. The previous grounds of rejection have been withdrawn. In particular, the examiner agrees that Kunishige teaches that at least 10% ferrite is an important part of the invention, and thus one of ordinary skill in the art would not have been directed to reduce the ferrite proportion.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER KESSLER whose telephone number is (571)272-6510. The examiner can normally be reached on Mon-Fri, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

csk